



# Coronavirus Disease 2019 (COVID-19)

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## Large-scale Geographic Seroprevalence Surveys

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CDC wants to learn more about the percentage of people in the United States who have been infected with SARS-CoV-2, the virus that causes COVID-19 and to better understand how the virus is spreading through the U.S. population over time. Because infected people can have mild illness or may not get medical care or testing, CDC also wants to use this information to estimate the number of people who have been previously infected with SARS-CoV-2 and were not included in official case counts. To help answer those questions and others, CDC is collaborating with public health and private partners on a variety of seroprevalence surveys of different sizes, locations, populations studied, and purposes.


Seroprevalence surveys use [serology tests](#) to identify people in a population or community that have antibodies against an infectious disease. Antibodies are specific proteins made in response to infections. Antibodies are detected in the blood of people who are tested after infection; they show an immune response to the infection. Antibody test results are especially important for detecting previous infections in people who had few or no symptoms. It is not known yet if having antibodies to the virus that causes COVID-19 can protect someone from getting infected again, or, if they do, how long this protection might last. CDC and its partners plan to study this issue.

CDC is conducting seroprevalence surveys called “large-scale geographic seroprevalence surveys” in locations across the United States. The first seroprevalence surveys began in areas that first reported community transmission of SARS-CoV-2 in the United States; they are now being expanded to more regions. Descriptions of these surveys are provided below.

### Commercial Laboratory Survey

CDC is partnering with commercial laboratories to conduct a large-scale geographic seroprevalence survey that has tested de-identified clinical blood specimens from people in Connecticut, Louisiana, Minnesota, Missouri, the New York City metro area (Manhattan, Bronx, Queens, Kings, and Nassau), the Philadelphia metro area (Bucks, Chester, Cumberland, Delaware, Lancaster, Montgomery, Philadelphia), the San Francisco Bay Area (Marin, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco), South Florida (Miami-Dade, Broward, Palm Beach, and Martin), Utah, and the Western Washington Region (King, Snohomish, Pierce, Kitsap, and Grays Harbor) for antibodies for the virus that causes COVID-19. CDC, in partnership with state and local health departments, plans to expand this to a national seroprevalence survey.

The survey includes people who had blood specimens tested for reasons unrelated to COVID-19, such as for a routine or sick visit blood test by commercial laboratories in participating areas from each of the 10 sites. CDC aims to test about 1,800 samples collected from each of these 10 areas, approximately every 3–4 weeks. Researchers are looking to see what percentage of people tested already have antibodies against SARS-CoV-2, and how that percentage changes over time in each area.

More on the methodology used in this study is available online, [Seroprevalence of antibodies to SARS-CoV-2 in Six Sites in the United States, March 23-May 3, 2020](#)  .

CDC has received results from all of Connecticut, Louisiana, Minnesota, Missouri, the New York City metro area (Manhattan, Bronx, Queens, Kings, and Nassau), the Philadelphia metro area (Bucks, Chester, Cumberland, Delaware, Lancaster, Montgomery, Philadelphia), the San Francisco Bay Area (Marin, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco), South Florida (Miami-Dade, Broward, Palm Beach, and Martin), Utah, and the Western Washington Region (King, Snohomish, Pierce, Kitsap, and Grays Harbor) from blood samples collected by commercial laboratories as part of routine patient care.

[View Results](#)

## Blood Donor Survey

CDC is conducting a nationwide COVID-19 [seroprevalence survey](#) in 25 U.S. metropolitan areas to understand the percentage of people in the United States who may have been infected with SARS-CoV-2, the virus that causes COVID-19.

This is the largest nationwide COVID-19 seroprevalence survey to date, and it will be conducted in collaboration with the National Institutes of Health, the Food and Drug Administration (FDA), Vitalant Research Institute (VRI), and large blood collection organizations, including Vitalant, American Red Cross, Bloodworks Northwest, New York Blood Center, OneBlood, The Blood Center, Versity, Blood Bank of Hawaii, Carter Blood Care, and Banco de Sangre de Servicios Mutuos.

This seroprevalence survey will expand an ongoing National Institute of Allergy and Infectious Diseases and National Heart, Lung and Blood Institute (NHLBI) funded project with VRI that involves the [NHLBI REDS \(Recipient Epidemiology and Donor Evaluation Study\)](#) [↗](#) program. The SARS-CoV-2 REDS project plans to test existing blood donation samples from Boston, MA; Los Angeles, CA; Minneapolis, MN; New York City, NY; San Francisco, CA; and Seattle, WA for SARS-CoV-2 antibodies each month for 6 months from March through August 2020.

[Learn More](#)

### CDC Seroprevalence Survey Types

CDC is collaborating with public health and private partners on a variety of surveys of different sizes, locations, populations studied, and purposes. The seroprevalence surveys CDC is conducting include:

- Large-scale Geographic Seroprevalence Surveys
- [Community-level Seroprevalence Surveys](#)
- [Special Populations Seroprevalence Surveys](#)

[Learn more](#)

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